



U.S. Department of
Transportation



Intelligent Transportation Systems Standards Fact Sheet

SAE J2367 (Draft)

ITS Data Bus (IDB) Gateway Recommended Practice

August 2000

Overview

The ITS Data Bus (IDB), a serial communication bus, may be the bridge between the development-cycle time difference for automobiles and electronics. It may also meet the need to be able to upgrade automobile electronics during the life of the vehicle. It is intended to provide a common network interface for consumer devices, which may be integrated into vehicles.

The long development time required to produce a new automobile and the short development time of today's consumer electronic devices has meant that the electronics in a vehicle might lag the state of the art by several years. With the growing consumer-oriented electronics content in today's vehicles, it is becoming more difficult for the automotive manufacturers to meet consumers' expectations. The result is increasing pressure on the vehicle manufacturers from after-market electronics suppliers, who can update their product lines as fast as the device manufacturers can produce new models.

To obtain a copy of this draft standard, please contact:

Society of Automotive Engineers (SAE)
400 Commonwealth Drive
Warrendale, PA 15096
Tel: (724) 776-4841
Fax: (724) 776-5760
Web site: www.sae.org

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What is this standard for?

The IDB Gateway Recommended Practice defines the functional requirements of a protocol converter and message filter between the IDB and a vehicle's proprietary OEM bus. The document was developed by the SAE ITS Data Bus Committee. Its primary goal is to provide a standard means of connecting consumer electronics devices to a vehicle without requiring the consumer electronics manufacturers to develop interfaces to the different proprietary original equipment manufacturer (OEM) vehicle buses, nor to have to complete automotive-type qualifications on every product which might be of value in an ITS application.

The gateway allows a selective exchange of data between devices on the IDB and devices on the vehicle bus. This allows the IDB to operate independently of all vehicle systems, giving the consumer electronics manufacturers the freedom to integrate IDB interfaces into their popular consumer products without the need for performing a full automotive level network qualification. This independence is important since, in reality, the IDB is a consumer electronics network operating in a vehicle, not simply another automotive network. It is targeted for networking consumer components that are independent of existing automotive control systems.

Who uses it?

The gateway is intended to be supplied by the vehicle manufacturer to ensure that the integrity of the vehicle is maintained, and that nothing that occurs on the IDB can adversely affect the safe operation of the vehicle.

The IDB itself is intended to be used by vehicle manufacturers to prepare their vehicles for consumer electronics devices, and by the consumer electronics manufacturers to be able to build one version of their products that can be used in any vehicle. The ultimate users of the components themselves are the consumers (vehicle buyers) who will be able to configure their vehicles much the same way as they configure their home theaters and personal computers.

How is it used?

The standard defines the functional requirements of the gateway. It also defines the interface between the vehicle manufactures proprietary network and the IDB network. In addition, sets of common input and output messages between the IDB network are defined.

Scope

This standard, **SAE J2367, ITS Data Bus (IDB) Gateway**, specifies the functional requirements of an IDB gateway, which acts as a protocol converter and translates the vehicle OEM's proprietary messages into their IDB standard equivalents. In addition, it provides a filter and data security function to protect the vehicle systems from any unauthorized access by IDB devices.

Related documents

To accommodate the broad scope of this effort, the IDB specifications have been divided into several individual documents. At present, the following documents are defined:

[SAE J2355—ITS Data Bus—Architecture Reference Model \(Information Report\)](#)
[SAE J2366-1—ITS Data Bus—Protocol Physical Layer \(Recommended Practice\)](#)
[SAE J2366-2—ITS Data Bus—Protocol Link Layer \(Recommended Practice\)](#)
[SAE J2366-4—ITS Data Bus—Protocol Thin Transport Layer \(Recommended Practice\)](#)
[SAE J2366-7—ITS Data Bus—Protocol Application Message Layer \(Recommended Practice\)](#)
SAE J2366-7LX—ITS Data Bus—Application Message Layer Lexicon
SAE J2366-7A—ITS Data Bus—Vehicle Application Messages (Recommended Practice)
SAE J2366-7B—ITS Data Bus—Other Application Messages
SAE J2366-7C—ITS Data Bus—Advanced Traveler Information Systems Application Messages
SAE J2366-7D—ITS Data Bus—Computation/Storage Application Messages
SAE J2366-7E—ITS Data Bus—Entertainment Application Messages
SAE J2366-7F—ITS Data Bus—Communications Application Messages
SAE J2366-7G—ITS Data Bus—User Interface Application Messages
SAE J2366-7H—ITS Data Bus—Public Service Application Messages
SAE J2366-7I—ITS Data Bus—Commerce Application Messages
SAE J2366-7J—ITS Data Bus—Navigation Application Messages
SAE J2366-7K—ITS Data Bus—Security Application Messages
SAE J2366-7L—ITS Data Bus—Emergency/Public Safety Messages
SAE J2366-7M—ITS Data Bus—Diagnostic Application Messages
SAE J2366-7N—ITS Data Bus—Warning Application Messages
SAE J2367—ITS Data Bus Gateway (this standard)
[SAE J2368—ITS Data Bus Conformance Test Procedure \(Recommended Practice\)](#)
SAE J1760—ITS Data Bus Data Security Services (Recommended Practice)